

Full Length Research Paper

Motivation levels of gifted students and their metaphorical perceptions of school

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The aim of this study is to analyze the school motivation levels of gifted students and their metaphorical perception of school. For this purpose, quantitative and qualitative approach was used as the mixed method. The sample for both methods consisted of 96 gifted students at secondary school level. For quantitative data, School Motivation Scale was used and the students were also asked to form their metaphors about school as the qualitative data collection tool. Based on the descriptive statistics of School Motivation Scale, scores which indicated +/-1 standard deviation from mean and the metaphors of these students were compared depending on their motivation levels. The metaphors formed were collected under three main headings; positive metaphors, negative metaphors and neutral metaphors. According to the results, students who had high school motivation score stated mostly positive metaphors about school. The students who had low school motivation score tend to state mostly negative metaphors.

Key words: Gifted students, Metaphor, mixed method, school motivation.

INTRODUCTION

Nowadays, there has been an interest in giftedness and attempts have been made to include the category of gifted children under special education. Thus, in Turkey, as in Spain and the USA, special education covers the category of gifted children in the context of integrated education. While giftedness is a delicate and interesting subject it is too little to be explored by pedagogy. Today, it seems that gifted children should benefit from special training programmes for their adaptation to their high potential. However, the identification of gifted or talented children is a concern that lately gained interest among researchers. Traditionally, children with superior cognitive abilities (gifted) are identified as those who score very

high on intelligence tests and who perform exceptionally well on achievement measures; and thus, children who are identified as "gifted" or "talented" are regarded as the crucial potential human source for their countries. However, the problems of identifying and educating the gifted children is under debate in terms of the types of giftedness, the influence of different cultural groups, the origin of giftedness, the procedures of identifying it, the efficiency of training programmes, etc. According to Gagné (2003), "Gifted students are those whose potential is distinctly above average in one or more of the following domains of human ability: intellectual, creative, social and physical. Talented students are those whose skills are

distinctly above average in one or more areas of human performance." In fact, there is difficulty in coming to consensus on the definition. Sternberg and Davidson (1986) edited a volume in which more than a dozen authors either put forward conceptions of giftedness or discussed different variables that they saw as important in gifted performance (e.g., insight, metacognition). The issue of developing the potential of giftedness into active contribution to society is the concern for administrators in national education system. It is also considered by the governing power sources who lead society, economy and education. Since this potential is rare, it becomes "national value" and should be regarded as "social responsibility" (Bilgili, 2000). It is generally one of the priorities of education systems that all students should achieve a certain level of success as high as their capacity allows. Therefore, the students who are academically regarded as "unsuccessful students" are seen as a problem for all educators. When it comes to gifted students, the reasons behind their under-achievement at school are mostly disregarded because of the mistaken judgment that being gifted guarantees high success or those who are academically low have already average success level and, therefore, they are ignored.

The significance and aim of the study

It is clear from the statements in the researches above that gifted students face some challenges in their academic life. Such factors as having cognitively high capacity, feeling differently in peer relations, feeling in need of extracurricular activities and need of differently structured educational environment can be stated as reasons for these challenges. It is only possible through the education programs that gifted students actualize their potential and contribute to both themselves and to society. As long as they have low school motivation, it is not possible for them to achieve that. There have been researches related with the motivation and its impact on teaching some subjects like mathematics and science but we have not met comprehensive studies on the motivation levels of gifted children, for example, in African education systems. To trigger some comparisons and create comprehensive studies and projects in this context, this research is of high importance. In addition, the research aims to find out whether there is a relation between the motivational and perceptions of school in the minds of the gifted children. It is important to determine how to improve the motivation level and change the image of school. This is expected to increase the enthusiasm for school. Considering all these facts, this study aims to find out gifted students' school motivation levels and the relation between these levels and their school perception through metaphors. The research aims to comparatively

analyze gifted students' school motivation and their metaphorical perception of school. In this context, Schulze and Heerden (2015) mention Achievement Goal Theory that divides achievement goals into two broad categories, namely mastery and performance goals. Mastery goals are linked to the intrinsic value of learning. Such intrinsic motivation "is the motivation to engage in an activity for its own sake – for the pleasure and satisfaction derived from its performance". Thus, two main questions formed the corpus of the study:

1. What are the school motivation levels of gifted students at secondary school grades?
2. Are there any relations between the gifted students' school motivation levels and their metaphorical perceptions of school?

LITERATURE REVIEW

The first systematic effort to explain giftedness began in 1921 with Lewis Terman's Genetic Studies of Genius (Terman, 1922). This work provided a direction for researchers, mental health practitioners, and educators. Since then, many other conceptions of giftedness (Sternberg and Davidson, 1986, 2005) have been developed. The researchers pointing out their vulnerabilities as inherent to their giftedness and they suggest that gifted children need special programming, ongoing socioemotional support, and understanding (Callard-Szulgit, 2003; Fonseca, 2011; Sisk, 2009).

There are some misperceptions that can be counted as the reasons behind the action of disregarding education of gifted students. Some of them are that they do not need extra support since they already have a high capacity, and that they can find a way to improve themselves in any setting and different educational environment. Because being gifted creates, in a way, an elite class in the general mind, it raises some problems in society (Yaman, 2013). Therefore, it is not enough to describe the term "gifted" as cognitively higher than the average. It also covers that social, emotional and personal features associated with being gifted should also be taken into consideration. It is also a fact that gifted children and also adolescents face emotional and social adjustment problems more than expected (Özbay and Palancı, 2011). It may be because of the fact that gifted individuals who present different growth levels in developmental areas perceive the world as a whole. They internalize the events that occur around them and sometimes have difficulty in discriminating what has happened and what has been wished to happen. They feel deeply sad when they face disappointments and it is not easy for them to understand and comprehend injustice. These children may feel alienated and alone in a classroom and they can be misunderstood by their

peers. In addition, gifted children can experience difficulty being understood by adults as they can both appreciate, value, and reward gifted children's talents and also sometimes ridicule the child or perhaps make the child conform to a more normal mold (Delisle, 1992). Webb (1994) suggests that there are some internal and external reasons behind those kinds of challenges that gifted children face. It has also been claimed that unsynchronized development, peer relations, excessive personal criticism, multi-potentiality are among the areas in which gifted children experience problems most (Whitmore, 1980; Adderholt-Elliott, 1989). Neihart et al. (2002) state that there are important risky points regarding gifted students' social and emotional development. These points include the problems arising from their low academic success and unsynchronized development compared with their peers, learning disability and psychological reactions to low success level for their potential and perfectionism, attention deficit disorder and hyperactivity (Reis and Renzulli, 2004).

Kleine and Webb (1992) suggested that issues such as school culture and norms, expectations of others and peer relations can be counted as reasons for external problems that gifted students face. Gifted kids are described as cognitively higher than their peers and therefore a different educational environment becomes necessary for them. Halstead (1994) stated that gifted kids might also need different peer groups because of their interest in many areas. They can also establish relations with adults because of their advanced level (Webb, 1994). All these factors might have an impact on their perception of school where they have to be with their peers.

In order to find out what kind of challenges parents with gifted kids face, a study was conducted with the parents whose kids attend Science and Art Center (SAC). These centers are public establishments for students who are identified as gifted and talented and run under the Ministry of National Education in Turkey. Results of the study indicated that parents experience the greatest challenges with their kids in the areas such as their personal traits, study habits, communication skills and formal education. Parents also stated that there is no proper guidance about their kids' talent and interest in formal education (Karakuş, 2010).

Gifted students are in need of a differentiated educational program rather than a standard educational program in formal education (Passow, 1988). Educational programs at schools are prepared according to the average level. Therefore, these programs are not able to respond to the needs of the students who are both above and below the average (MEB, 2001). SACs are institutions for gifted students where classrooms are set up according to their developmental levels and needs. So, their perception of these centers will provide important insights into how they feel in these environments. Kunt

and Tortop (2013) conducted a research in order to examine gifted students' metaphorical perceptions of SACs in Turkey. Results showed that the metaphors of students were quite positive, which was in line with the purpose of establishment of these centers. In another study conducted by Altun (2010), gifted students' perfectionism, school motivation, learning styles and academic achievement were examined. Besides, gifted and non-gifted students were compared on the basis of these variables. The results showed that non-gifted students were significantly higher than the gifted students in terms of positive and negative perfectionism, school motivation and audio type learning style. Considering their grade level, sixth grade students had higher scores on school motivation scale than the seventh and eighth grade students. Gari et al. (2000) also examined gifted students' school motivation and they found that their motivational level was inadequate.

METHODOLOGY

Research design

This study aims to determine the motivation levels of gifted students and the relation between their motivation levels and their school perceptions. To this end, the study was carried out in mixed method research design using qualitative and quantitative method together. The design has the stage exploratory, quantitative data, qualitative analysis, and inference as suggested by Tashakkori and Teddlie (1998). Mixed methods research as the combined use of quantitative and qualitative methods in the same study is becoming an increasingly popular approach in many disciplines such as sociology, psychology, education and health sciences. These fields suggest the integration of quantitative and qualitative research (Greene et al., 1989; Tashakkori and Teddlie 2003; O'Cathain, 2009). Greene et al. (1989) defined mixed methods research designs as those that include at least one quantitative method (designed to collect numbers) and one qualitative method (designed to collect words). Tashakkori and Teddlie (1998) refer to mixed methods studies as those that combine the qualitative and quantitative approaches into the research methodology of a single study. For Johnson and Onwuegbuzie (2004), mixed methods research is the class of research where the researcher mixes or combines quantitative and qualitative research techniques, methods, approaches, concepts or language into a single study. The reason for the use of quantitative and qualitative approaches in combination is that it may provide a better understanding of research problems and complex phenomena than either approach alone (Creswell and Clark, 2007). Balci (2011) states that studies using mixed method are more powerful and adequate in terms of evaluating the research question deeply and preventing the evasion of data than the research using just one method. It has also been claimed that mixed method allows a more comprehensive study of research problem and increases the validity and reliability of the research (Yıldırım and Şimşek, 2005; Creswell, 2013). Johnson and Onwuegbuzie (2004) state that mixed method research designs are used in the fields of scale, development and improvement of questionnaires and other data collection tools, development, implementation and evaluation studies, approval and cross-validation of data, examining different aspects of the same issue, discovery of complex phenomena from different perspectives and

Table 1. Distribution of students by gender and grade variable.

Gender	5th grade	6th grade	7th grade	8th grade	Total	%
Female	12	15	16	7	50	52
Male	24	7	11	4	46	48
Total	36	22	27	11	96	100
Percentage	37.5	22.9	28.1	11.5	100	

testing of the findings obtained with a single method.

The definition supplied by Plano Clark (2005) is applied in this study: mixed methods research is research that combines qualitative and quantitative data collection and data analysis within a single study. The research aims to gain a deeper understanding about gifted students' motivation levels and their school perceptions. Considering the research problems, the study has two phases of the mixed research methodology.

Quantitative phase

At this stage, quantitative data was obtained with the help of the School Motivation Scale (SMS). The scale used in this study was developed by Yavuz (2006) in Turkish to measure school motivation of students who are in secondary school level. It consists of 34 items and measures only one factor. The minimum point that can be taken from the scale is 34 while maximum point is 170 and higher points indicate higher school motivation. The result of SMS's reliability analysis, standard alpha internal consistency coefficient was found as .90. Other reliability analysis indicated that two half-reliability was $r = .81$ and half reliability coefficient was .89. Within the scope of validity analysis of the scale, students' grade from Turkish, Mathematics, English, Social Studies and Science courses were compared with their points from school motivation scale. In addition, variables such as students' gender, education level of the mother and father and the number of siblings were also analyzed in terms of their effects on school motivation.

Population and sampling

In the research, firstly 5th, 6th, 7th and 8th grade students were given the SMS. The sample consisted of 96 gifted middle school students who participated in an enriched program in Bağcılar Enderun Talented Children Center in Istanbul, Turkey. The distribution of students by gender and grade variable is given in Table 1.

The sample was determined by purposive sampling method. Purposive sampling is defined as sampling on the basis of knowledge about population features and the purpose of study. In this method, researchers select a subgroup which presents the population as a sample of study (Gönç-Şavran, 2012). Besides, the sample is also convenient sample. Considering the difficulty of reaching a group of gifted students, there are several factors that made preferable working with this group, as these children are already identified before and they receive education in a certain center and one of the researchers of this study works in that center as a counselor. This is why, the sample is easily accessible. Four students who didn't come to center on that day and five students who participated in pilot scheme were not included. Excluding these students, the sample of the study consisted of 96 gifted students.

Data analysis

The quantitative data obtained was analyzed using SPSS Statistics 21 and the process of content analysis techniques were used for the qualitative data.

The steps for the quantitative data collection were as follows: Two teachers who work at Enderun Talented Children Center from the Turkish and Counseling branches evaluated the School Motivation Scale in terms of suitability for children. Then, as a pilot scheme, the School Motivation Scale was applied on 5 students who were not included in this study on 29/03/2014 in order to test both the understandability and applicability of the scale and the application time. It was seen that the scale can be applied in 45 min. The study was carried out on 05/04/2014 at Enderun Talented Children Center in two sessions. In one session, quantitative data (School Motivation Scale) was collected and in second session qualitative data (metaphors about school) was collected. Prior to data collection, students were informed about the subject, content and the importance of study. They were also notified that participation was voluntary. All the students asked to participate on voluntary basis and the data was collected by the counselor of the center. Students were asked to write a code instead of their names and not to forget these codes to write in the second session too. Four students who did not come to center on that day and five students who participated in pilot scheme were not included. Excluding these students, the sample of the study consisted of 96 gifted students. The quantitative data obtained was analyzed using SPSS Statistics 21 and the process of content analysis techniques were used for the qualitative data.

Qualitative phase

In order to determine whether there is a relation between the secondary school gifted students' school motivation levels and their perceptions of school, metaphor technique was used. Students indicated their perception of school through metaphors. Metaphor is defined as explaining the unknown by using the known and making a phenomenon clear using its analogies (Balci, 2003). When a phenomenon is described metaphorically, it involves a comparison of or similarity between two or more subjects. This way of describing things allows people to emphasize certain aspects of the phenomenon and provides a better understanding (Şışman, 2002). Metaphors are used in qualitative researches in order to describe a situation and to accelerate and improve the process. When metaphors are used for description, they picture the situation, fact or phenomenon as it is (Yıldırım and Şimşek, 2005).

Study group

The study group and Distribution of students by gender and grade variable is given in the table. Each student was asked to complete the sentence "School is like ..., because ...". The words "like" and

Table 2. Descriptive statistical values of school motivation scale.

	N	Range	Minimum	Maximum	Mean	Standard deviation
Score	96	111	50	161	116.16	25.542

"because" were prepared to explain the similarity between the chosen metaphor and reason and thinking way of the student while forming the metaphor.

The qualitative data was obtained through the metaphors about school in the second session at Enderun Talented Children Center, on 05/04/2014, following the quantitative data collection session. Firstly, researchers needed to inform the students about metaphor formation process and held a 15-min presentation. The researchers wanted to be sure that the students know what are required to form the related metaphors. In presentation, some metaphor examples about similar issues in literature were given. For instance, the sentence "Hospital is like...because..." was analyzed as sample metaphor. Following this short seminary, the forms, on which the sentence "School is like... because..." was written, were given to the students and they were asked to use the same codes that they used in previous session for the quantitative data collection session. The same students as in the quantitative session participated in this session and they formed the forms and the researchers collected the forms for the next step.

The data obtained through metaphors were analyzed considering the metaphors of students whose School Motivation Scores fall +1 sd and above and -1 sd and below. Therefore, after calculating the school motivation scores, metaphors were evaluated and the metaphors of students whose school motivation score was between the +1 sd and -1 sd were excluded. Metaphors of those whose school motivation score +1 sd and above and -1 sd and below were listed. Metaphors were grouped on the basis of reasonable grounds and the metaphors were collected under three main categories which are positive metaphors, negative metaphors and neutral metaphors. In order to ensure the reliability of the second and third step and to verify whether the metaphors represent the category it belongs to, expert opinion was asked and five experts were consulted. According to the formula by Miles and Huberman (1994), the process was 90% reliable.

RESULTS

The school motivation levels of gifted students

The findings about the motivation levels of the gifted students at secondary level and their perceptions about school came out with the help of the analysis of the data obtained from the SMS and metaphors. In the analysis of the data, quantitative and qualitative data were considered together in line with convergent parallel design. Scores of students from the SMS and metaphors they stated are shown in tables below.

Descriptive statistical values of the SMS are given in Table 2. In Table 2, the mean was found as 116.16 while the standard deviation was 25.542. It is seen that the mean is within the limits of population parameter on 0.95 level. In addition, the high standard deviation value shows that the sample has heterogeneous structure in

terms of school motivation.

Evaluation of SMS on the basis of standard deviation is given in Table 3. This study is based on the comparison of two groups that are students whose scores fell +1 sd and above and -1sd and below. The School Motivation score which was between +1 sd and -1 sd and metaphors of these students were not analyzed. As it is indicated in Table 3, there are 53 students whose School Motivation scores fall between +1 sd and -1 sd, 23 students fall +1 sd and above, while 20 students fall -1 sd and below.

Gifted students' metaphorical perceptions of school

According to the data obtained, the metaphor categories formed are given in Table 4. When Table 4 is examined, it is seen that students whose School Motivation scores fell +1 sd and above mostly stated positive metaphors about the school while few students stated negative metaphors and only one student stated neutral metaphor. It was also seen that students whose School Motivation scores fell -1 sd and below mostly stated negative metaphors about the school while few students stated positive metaphors and only two students stated neutral metaphors.

The metaphors of students whose school motivation scores fall +1 sd and above are given in Table 5. Most of these metaphors under this category are positive:

"School is like my family because I feel happy and peaceful." (S 6).

"School is like traffic because there is non-stop flow of information." (S 11).

"School is like a chocolate because you enjoy yourself while eating it." (S 40). "School is like a road because it allows you to progress on the path that will determine your future." (S 42).

"School is like a broom because it wipes out the wrong information and gives you the right ones." (S 8).

"School is like a ruler because it allows you to live your life properly." (S 28).

Some examples from negative and neutral metaphors are as follows:

"School is like a prison because we are stuck in there for seven classes." (S 4). "School is like a home because we stay there for hours." (S 15).

"Home" metaphors both under the positive and neutral categories were determined according to the explanation

Table 3. Evaluation of school motivation scale on the basis of standard deviation.

	+1 SD and above	Between +1 and -1 SD	-1 SD and below	Total
N	23	53	20	96

Table 4. Metaphor categories.

Categories	Positive	Negative	Neutral	Total
Students whose School Motivation scores fall +1 SD and above	18 (%78.3)	4 (%17.4)	1 (%4.3)	23
Students whose School Motivation scores fall -1 SD and below	2 (%10)	13 (%65)	5 (%25)	20

Table 5 Metaphors of students whose school motivation scores fall +1 SD and above.

Scores	Metaphor	No. of students	Percentage of students
Positive	Home (5), family (3), traffic, festival, road, chocolate, love ball, heaven, dream, ruler, broom	18	78.3
Neutral	Home (3), life	4	14.4
Negative	Prison	1	4.3
Total	23	23	100

Table 6. Metaphors of students whose school motivation scores fall -1 Sd and below.

Scores	Metaphor	No. of Students	Percentage of students
Negative	Prison (5), hot pepper (2), grave, judgment day, lemon, garbage dump, homework land, coke	13	65
Neutral	Home (3), private course (2)	5	25
Positive	Book, festival	2	10
Total	20	20	100

after "...because". If explanations after "...because" are "...because it is as safe as home" (S 2), "...because my friends is my family" (S 12), they have been put under the positive metaphors. If the notions after "because" are like "...because we spend most of our day there" (S 3), "...because we stay there for hours" (S 14), "...because we spend more time in school then home" (S 17), then they have been put under the neutral category since the meaning might refer to both positive and negative feeling.

The metaphors of the students whose school motivation scores fall -1 sd and below are given in Table 6. Some of these metaphors under this category are as follows:

"School is like a prison because they expect us to sit in a small room like a statue without saying a word for hours and they humiliate us about the subjects we don't understand."(S 43).

"School is like the judgment day because there are always questions and exams." (S 31).

"School is like a lemon because it seems appetizing but once you taste it, you regret." (S 25).

"School is like a homework land because there are plenty of homeworks." (S 26).

"School is like a hot pepper because teachers always give us trouble." (S 38). "School is like a coke, because it refreshes us at the beginning but bores us toward the end." (S 41).

Some examples from negative and neutral metaphors are as follows:

"School is like a book because we learn new information each time we go to school as we learn from each page." (S 30).

"School is like a home because we stay there more than

at home." (S 18).

DISCUSSION

This study aims to analyze comparatively the school motivation levels of the gifted students and their metaphorical perception of school. It is clear from the results that students with high motivation score state most commonly positive metaphors whereas students with low motivation scores state mostly negative metaphors. Yob (2003) states that metaphors are inadequate for explaining the whole as they give partial information. Even though the metaphors provide strong views about the phenomenon, they are not the actual phenomenon and therefore more metaphors should be included in order to compensate for this (Saban, 2008).

The gifted students stated their negative perceptions of school through metaphors such as "lemon", "hot pepper" and "prison". Metaphors such as "heaven", "chocolate" and "festival" were examples of their positive perceptions of school while some students shared neutral feelings about school and they expressed metaphors like "life" and "classroom". When the negative metaphors are examined, it is seen that "prison" is the most commonly used metaphor by the students. This result is in line with the study of Inbar (1996) and Akkaya (2012). In both studies which analyzed the secondary school students' metaphorical perceptions of school, it was found that most of the students used the metaphor "prison" in order to describe school. In another study conducted by Saban (2011), it was concluded that the majority of students' metaphors were under the "school as discipline and control center" heading. Balci (1999) claimed that the schools has a disciplined and authoritarian atmosphere based on the research in which students', teachers' and parents' metaphorical perceptions of school were examined.

When the positive metaphors were examined, it is seen that "home" and "family" were the most commonly used metaphors by students. These metaphors showed that students perceived school as a protective, safe and peaceful place. This finding is in parallel with the studies by Balci (1999) and Cerit (2006), where the school was perceived as a family by students. In addition, Aydoğdu (2008) pointed out that students used "parent" metaphors to describe the school and therefore regarded the school as a protective and peaceful place.

This study included students from four secondary grade levels and it was found that school motivation score differed based on grade level; motivation score got lower as the grade level increased. This result is in line with the study in which the gifted students' perfectionism, school motivation, learning styles and academic achievements were examined by Altun (2010). Phillips and Lindsay (2006) stated that students become teenagers in

secondary school where peer relations and social acceptance gain priority and therefore their school motivation is affected negatively.

Colangelo and Davis (2003) pointed out that there are some factors which have a negative impact on gifted students' school motivation. Especially the structure of formal education and content of the courses can be counted as the prominent factors. Since the education program in school is inefficient and improper for their developmental level, this situation causes them to feel bored in school and affects their school perception negatively. At the same time, gifted students generally need extra curricular activities in order to actualize their potential (Lubinski, 2003).

CONCLUSION AND SUGGESTIONS

In this study, the mixed-methods study examined the relationship between the motivation levels of the gifted students and the students' perceptions of school. To trigger some comparisons and create comprehensive studies and projects in this context, this research is of high importance for the education systems covering gifted education. In this sequential explanatory design, quantitative and qualitative data were collected in two phases, with quantitative data in the first phase determining the motivation levels of the participants for the qualitative phase that followed. Results from the phases indicate that the students' motivation levels positively correlated with their perceptions of school. As the gifted children have crucial importance both for the society and the country, it is also crucial to prepare a more accurate education programs considering their perception of school. Motivation, demotivation and amotivation play important parts in the formation of school perception. Amotivation represents the absence of motivation because such behaviors lack intentionality, energy, and persistence (Ryan & Deci, 2000). When a person is a motivated, he or she does not believe there is a relationship between his or her behaviors and outcomes, thereby creating a sense of apathy or helplessness (Deci and Ryan, 1980). Thus, students form negative perceptions about the school. Gifted children face some challenges in their academic life because of some factors such as emotional reasons, peer groups, lack of proper education program and unidentified learning disabilities. It is a risk for gifted students who perform under their potential and they can't be expected to work it out on their own. In order to find the reasons behind underachievement of the gifted and eliminate them, new studies should be conducted including the views of parents, teachers and students together and solutions should be found based on research findings. Negative feelings toward school also cause demotivation and amotivation. Therefore, school motivation should be

studied on both gifted and non-gifted students for a comparative research.

Conflict of Interests

The authors have not declared any conflict of interests.

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